lent to about 41 X 108 kwh in 1986-87 and about 49 X 108. kwh in 1987-88 is estimated to have been generated/saved. Also through the Improved Chulhas programme about 20 lac tonnes of fuel wood-in 19S6-87 and about 30 lac tonnes of fuel wood in 1987-88 have been saved. Several thousand megawatts of electricity c. i be provided with relatively short gestation from non-conventional sources if financial resources are made available.

Cc) During current financial year it is expected that 65 lac units or electricity would be fed from the w'ind farm projects to the state grids. In other programmes energy equivalent to about 57x108 kwh, is expected to be generated during the current financial year Through the Improved Chulh;is programme, it is expected that an annual saving of 42 lac tonnes of f ies wood would take place in the country.

Electricity connections to unauthorised e>>-croachers of Government Land near Raiu-piira Railway Crossing

3326. SHRI MUKHTIAR SINGH MA-UK: Will the Minister of ENERGY' Jje pleased to state:

(a) whether it is a fact that Delhi Elec tricity Supply Undertaking (DESU) have provided electricity connections illegally to unauthorised persons who have encroach ed Government land near Rampura Rail way Crossing, near the Community Centre to enable them to run their commercial business;

(b) if so what are the reasons therefor; and

(c) whether Government propose to investigate as to how electricity connections have been given to the unauthorised encroachers by DESU and disconnect all such illegal electric connections and if not, what are the reasons therefor?

THE MINISTER OF STATE IN THE DEPARTMENT OF POWER IN THE MINISTRY OF ENERGY (SHRI KALP-NATH RAI); (a) to (c) The information is being collected and will be laid on the iabie of the House.

Popularising photo-voltaic energy

3327. SHRI SURENDRA SINGH THA-KUR; Will the Minister of ENERGY be pleased to state:

(a) whether Government hav$_e$ made efforts to popularise photo-voltaic cells to tap solar energy for various uses;

(b) if so, what are the details thereof; and

(c) what efforts have been made by Government to make photo-voltaic cells economical ary cheaper?

THE MINISTER OF ENERGY (SHRI VASANT SATHE): (a) and (b) The Department of Non-Conventional Energy Sources is implementing a country wide programme for the popularisation and deployment of solar photovoltaic systems designed to meet a variety of electrical energy requirements. Among the applications which have been successfully demonstrated are water pumping for drinking water supply and micro irrigation, street lighting lighting in community installations, television battery charging, power supply for off-shore oil platforms, microwave repeater stations, rural telephone exchanges etc. The programme is being implemented with the involvement of various agencies of the Central and State governments such as the Rural Electrification Corporation, State Electricity Boards Railways, Defence and Paramilitary Forces, etc. Over 3,000 villages have been provided with photovoltaic powered street lights as a measure of initial electrification Installation Of lighting systems in community centres, Panchayat ghars, adult education centres and provision of community television sets in such places has also been taken up. Small solar power stations have also been set up in a few unelectrified villages on an experimental basis.

(c) Solar cells and modules being made in the country are based on single crystal s'licon technology. Various reasons in eluding the present technology impact of

customs duty and higher cost of indigenous materials push up the cost of production. Even then however, photovoltailc cells are already economical compared to conventional power for several applications in areas at a distance from the transmission network. Th$_e$ Department of Non-conventional Energy Sources is supporting efforts aimed at bringing down the costs such as improvement in technology, increase in market size, improving systems design, etc. Special emphasis is also being placed on the development of newer technologies. A major technology development project relating to amorphous silicon solar cells is being implemented in the Seventh Plan which includes the establishment of a Pilot Plant.

Village level energy programme

3328. SHRI SURENDRA SINGH THAKUR; Will the Minister of ENERGY be pleased to state;

(a) whether Government have launched village level energy programme in the Seventh Plan;

(b) if so what are the details thereof;

(c) what are the achievements of Government during Sixth and Seventh Plan period under this programme;

(d) how many villages have so far been covered State-wise under this prog- » ramme in the country; and

(e) whether Government would consider to speed up the programme in view of the energy needs of the villages?

THE MINISTER OF ENERGY (SHRI VASANT SATHE): (a) and (b) The Department of Non-conventional Energy Sources has initiated a demonstration village level energy programme called 'Urjagram Programme" in the Seventh plan. Under this programme urjagram, projects which are based on a combination of various-non conventional energy devices and systems are taken up in suitable villages identified through energy surveys.

(c) and (d) 67 urjagram projects have so far been completed in 10 States/Union Territories, as follows;

1. Andhra Pradesh	3
2. Bihar	1
3. Gujarat .	9
4. Madhya Pradesh	6
5. Maharashtra	10
6. Orissa	6
7. Tamil Nadu	2
X, Tripura	2
9. Uttar Pradesh	22
10 Delhi	6

151 projects are under implementation, and several more *sre* planned.

(e) Initially it is proposed to establish one such demonstration urjagram project . in each Parliamentary constituency. Further expansion and acceleration of the programme will depend upon the availability of adequate financial resources.

Progress in the execution of bydel projects

3329. SHRI JAGADISH JANI; Will the Minister of ENERGY be pleased to state;

(a) whether it is a fact that the execution of some hydel projects like Indravati and upper Kolab are behind schedule;

(b) if so the reasons for the delay; and

(c) what are the details of progress made in the completion of those projects?

THE MINISTER OF STATE IN THE DEPARTMENT OF POWER IN THE MINISTRY OF ENERGY (SHRI KALPNATH RAI): (a) Yes, Sir, the execution of some hydroelectric projects like Upper Indravati and Upper Kolab are behind schedule